

WHAT IS CLAIMED IS:

1. A system for policy-based management of a multiprotocol label switching ("MPLS") network, the system comprising:
 - a policy-based network administration system, the policy-based network administration system including a plurality of policies; and
 - the MPLS network, the MPLS network coupled to the policy-based network administration system.
2. The system of claim 1, wherein the plurality of policies include a plurality of network operation policies.
3. The system of claim 2, wherein the plurality of network operation policies include a virtual private network policy.
4. The system of claim 2, wherein the plurality of network operation policies include a voice traffic policy.
5. The system of claim 2, wherein the plurality of network operation policies include a first quality of service policy and a second quality of service policy, the first quality of service policy being different from the second quality of service policy.
6. The system of claim 2, wherein:
 - the policy-based management system includes a policy decision point; and
 - the MPLS network includes a policy enforcement point, the policy enforcement point being coupled to the policy decision point.

7. The system of claim 6, wherein the policy-based management system includes a policy repository, the policy repository coupled to the policy decision point.

8. The system of claim 7, wherein the policy-based management system includes a policy management console, the policy management console coupled to one or more of the policy decision point and the policy repository.

9. The system of claim 6, wherein the policy enforcement point is a label switch router.

10. The system of claim 9, wherein the label switch router is an edge label switch router.

11. The system of claim 10, wherein the edge label switch router is part of a label switched path.

12. A system for policy-based control of a multiprotocol label switching ("MPLS") network carrying one or more of voice and data traffic, the system comprising:

a central office, the central office including a trunk gateway;

the MPLS network, the MPLS network being coupled to the trunk gateway of the central office; and

a network administration system, the network administration system including a plurality of policies, each policy of at least a subset of the plurality of policies to control at least in part operation of the MPLS network.

13. The system of claim 12, wherein the gateway is one of a line gateway, a trunk gateway, and a service gateway.

14. The system of claim 12, wherein the central office includes class five central office equipment.

15. The system of claim 12, wherein the network administration system includes one or more of traffic management information and device provisioning information.

16. The system of claim 12, wherein the plurality of policies include a plurality of traffic management policies.

17. The system of claim 12, further comprising a call control complex, the call control complex coupled to the network administration system and the MPLS network.

18. The system of claim 17, wherein the call control complex is to send voice service traffic data to the network administration system.

19. The system of claim 18, wherein the network administration system is to send voice service label switched path provisioning policies to the MPLS network.

20. The system of claim 18, wherein the network administration system is to send virtual private network provisioning policies to the MPLS network.

21. The system of claim 17, further comprising an SS7/AIN network coupled to the call control complex.

22. The system of claim 21, wherein the SS7/AIN network and the MPLS network are part of a regional telecommunications company network.

23. A method for policy-based control of a multiprotocol label switching ("MPLS") network, the method comprising:

- storing a policy to control operation of at least a portion of the MPLS network;
- retrieving the policy in response to a control input;
- sending the policy to the MPLS network; and
- operating the MPLS network based at least in part on the policy.

24. The method of claim 23, wherein the policy is a network operation policy.

25. The method of claim 24, wherein the network operation policy is a voice traffic policy.

26. The method of claim 24, wherein the network operation policy is a virtual private network policy.

27. The method of claim 24, wherein the network operation policy is a quality of service policy.

28. The method of claim 23, wherein storing the policy to control operation of at least a portion of the MPLS network includes storing the policy in a policy repository.

29. The method of claim 23, wherein the control input is received from a network device of the MPLS network.

30. The method of claim 23, wherein the control input is received from a policy management console.

31. A method of operating a multiprotocol label switching network with policy-based management, the method comprising:

operating at least a portion of the MPLS network based at least in part on a first policy;

receiving a control input;

selecting a second policy based at least in part on the control input, the second policy being different from the first policy; and

operating at least the portion of the MPLS network based at least in part on the second policy.

32. The method of claim 31, wherein operating at least a portion of the MPLS network based at least in part on a first policy includes operating at least a portion of the MPLS network as one or more voice trunks based at least in part on a first voice traffic policy.

33. The method of claim 32, wherein receiving a control input includes receiving a voice traffic condition.

34. The method of claim 33, wherein the voice traffic condition is selected from the group consisting of time of day, measured voice traffic demand, estimated voice traffic demand, projected voice traffic demand, and a customer request.

35. The method of claim 32, wherein receiving the control input includes receiving network status information from a network device of the MPLS network.

36. The method of claim 31, wherein operating at least a portion of the MPLS network based at least in part on a first policy includes operating at least a portion of the MPLS network as one or more virtual private networks based at least in part on a first virtual network policy.

37. A system for policy-based management of a multiprotocol label switching ("MPLS") network, the system comprising:

the MPLS network; and

means for policy-based management of the MPLS network, the means for policy-based management of the MPLS network coupled to the MPLS network.

38. The system of claim 37, wherein:

the means for policy-based management of the MPLS network includes a policy decision point; and

the MPLS network includes a policy enforcement point.

39. The system of claim 38, wherein the means for policy-based management of the MPLS network includes a policy repository.

40. The system of claim 38, wherein the means for policy-based management of the MPLS network includes one or more of a voice traffic policy, a virtual private network policy, and a quality of service policy.

41. A method for policy-based management of a multiprotocol label switching (“MPLS”) network, the method comprising:

- a step for operating at least a portion of the MPLS network based at least in part on a first policy;
- a step for receiving a control input;
- a step for selecting a second policy based at least in part on the control input, the second policy being different from the first policy; and
- a step for operating at least the portion of the MPLS network based at least in part on the second policy.

42. The method of claim 41, wherein the first policy is selected from the group consisting of a voice traffic management policy, a virtual private network management policy, and a quality of service management policy.

43. A computer-readable medium storing a plurality of instructions to be executed by a processor for policy-based control of a multiprotocol label switching (“MPLS”) network, the plurality of instructions comprising instructions to:

- store a policy to control operation of at least a portion of the MPLS network;
- retrieve the policy in response to a control input;
- send the policy to the MPLS network; and
- monitor operations of the MPLS network, the MPLS network operating based at least in part on the policy.

44. The computer-readable medium of claim 43, wherein the policy is selected from the group consisting of a voice traffic management policy, a virtual private network management policy, and a quality of service management policy.

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